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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,141	02/15/2002	Gerhard Hartwich	PATKRI P03AUS	7623
20210	7590	03/05/2004	EXAMINER	
DAVIS & BUJOLD, P.L.L.C. FOURTH FLOOR 500 N. COMMERCIAL STREET MANCHESTER, NH 03101-1151			HORLICK, KENNETH R	
			ART UNIT	PAPER NUMBER
			1637	

DATE MAILED: 03/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,141

Applicant(s)

HARTWICH, GERHARD

Examiner

Kenneth R Horlick

Art Unit

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 58-86 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 58-86 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. It is noted that examination of this application is now being handled by a different examiner.
2. The specification is objected to because of the following informality: specific claim numbers are referred to on page 4. Correction is required.
3. Claims 58-86 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - A) These claims are confusing because of the language "characterized in that" in independent claim 58, as the scope is unclear. It is suggested that conventional U.S. claim language such as "wherein" be used in amended claims. Further, claim 58 is confusing because it is not a complete sentence, and appears to be missing the word "is" between "moiety" and "selected" in line 3.
 - B) Claims 66-69 are further confusing because they are drawn to methods, but depend from a product claim. Clarification is required.
 - C) Claims 79-82 are further confusing because they are drawn to methods, but depend from a product claim. Clarification is required.

D) Claims 83-86 are further confusing because they are method claims, but do not recite any active steps. While minute details are not required in method claims, at least the basic steps must be recited in a positive, active fashion. See Ex parte Erlich, 3 USPQ2d, p. 1011 (Bd. Pat. App. Int. 1986).

E) Claims 85 and 86 are further confusing because "the substrate" lacks proper antecedent basis. Correction is required.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 58-69 are rejected under 35 U.S.C. 102(b) as being anticipated by any one of Landes (US 4,626,501), Warren, III et al. (US 5,082,780), or Warren, III et al. (US 5,272,077).

These claims are drawn to a nucleic acid oligomer modified by attachment of a redox-active moiety including a native or modified peroxidase, and to methods of making thereof.

Each of the cited patents clearly discloses such a modified nucleic acid oligomer and method of making thereof, wherein the attached moiety is a peroxidase. In '501 see columns 1-3 and Examples 1, 3, 5, and 7; in '780 see abstract and Example 1; in '077 see abstract and Example 1.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 70-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Landes, Warren, III et al. '780, or Warren, III et al. '077, further in view of Thorp et al. (US 5,871,918).

These claims are drawn to a conductive surface modified with attached nucleic acid oligomers as described above, to methods of making such modified conductive surfaces, and to methods of using such modified surfaces in hybridization detection assays.

As discussed above, each of the primary references discloses a nucleic acid oligomer modified with an attached peroxidase moiety.

The primary references do not teach a conductive surface modified with such modified nucleic acid oligomers.

Thorp et al. disclose conductive surfaces with attached nucleic acid probes and the use of such modified surfaces in hybridization assays wherein detection is via electrochemical means (see especially Figs. 4, 9, and 10; column 20, line 46 to column 21, line 59).

One of ordinary skill in the art would have been motivated to attach the modified probes of any one of the primary references onto a conductive surface because Thorp et al. disclosed the advantageous use of probes immobilized on conductive surfaces in

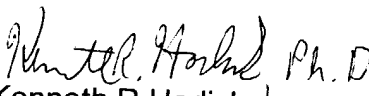
the electrochemical detection of nucleic acid hybridization. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make the claimed surfaces and to use them in the claimed methods.

6. No claims are free of the prior art.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth R Horlick whose telephone number is 571-272-0784. The examiner can normally be reached on Monday-Thursday 6:30AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571-272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kenneth R Horlick
Primary Examiner
Art Unit 1637

03/01/04